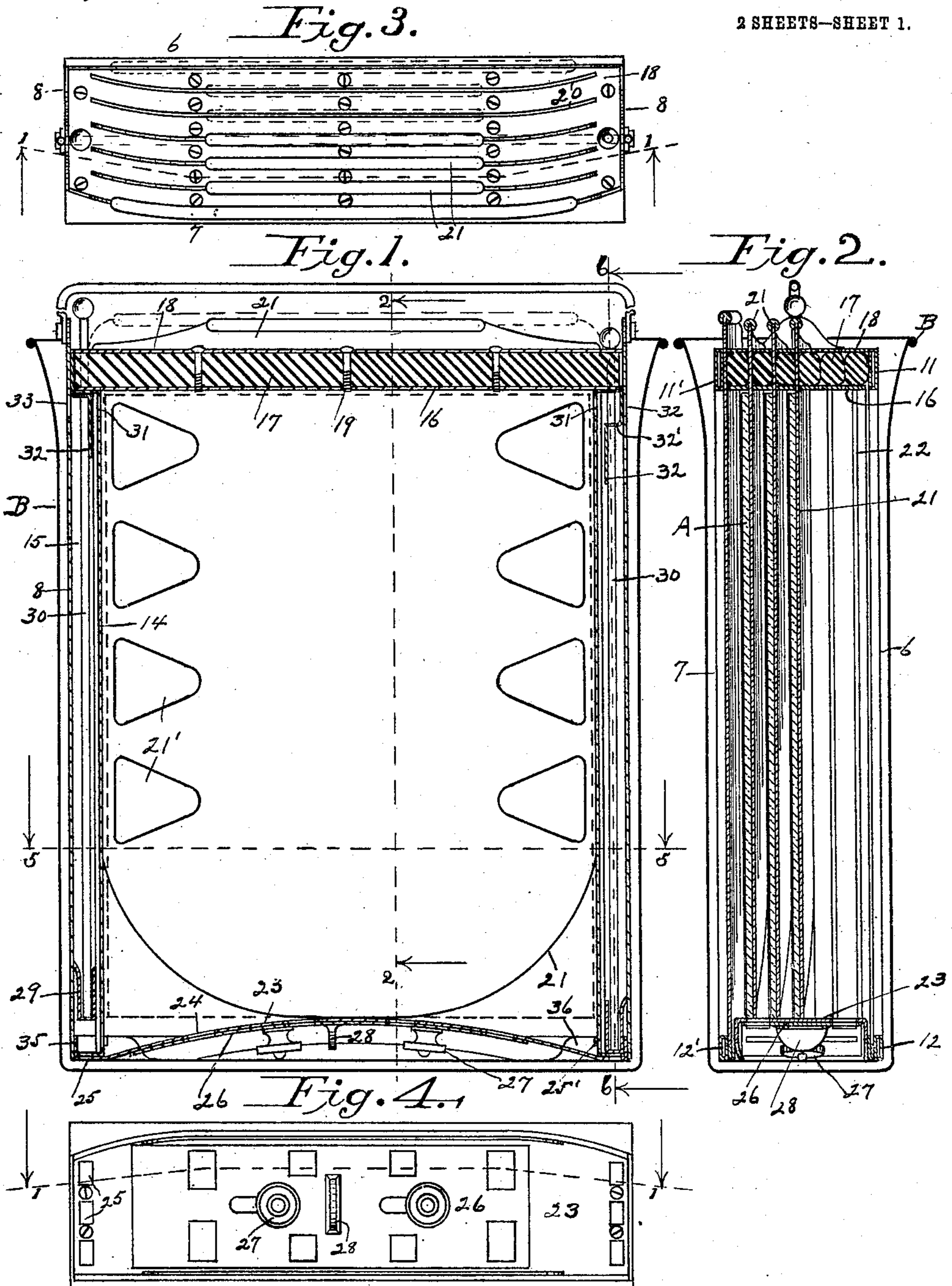


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DEVELOPING PACKAGE FOR PHOTOGRAPHIC PLATES.
APPLICATION FILED DEC. 28, 1907.

901,203.

Patented Oct. 13, 1908.

2 SHEETS—SHEET 1.



Witnesses.

Alvin Richard
Ally S. Malon

Inventor.

A. B. Sheppard,
By *John V. Smith* atty

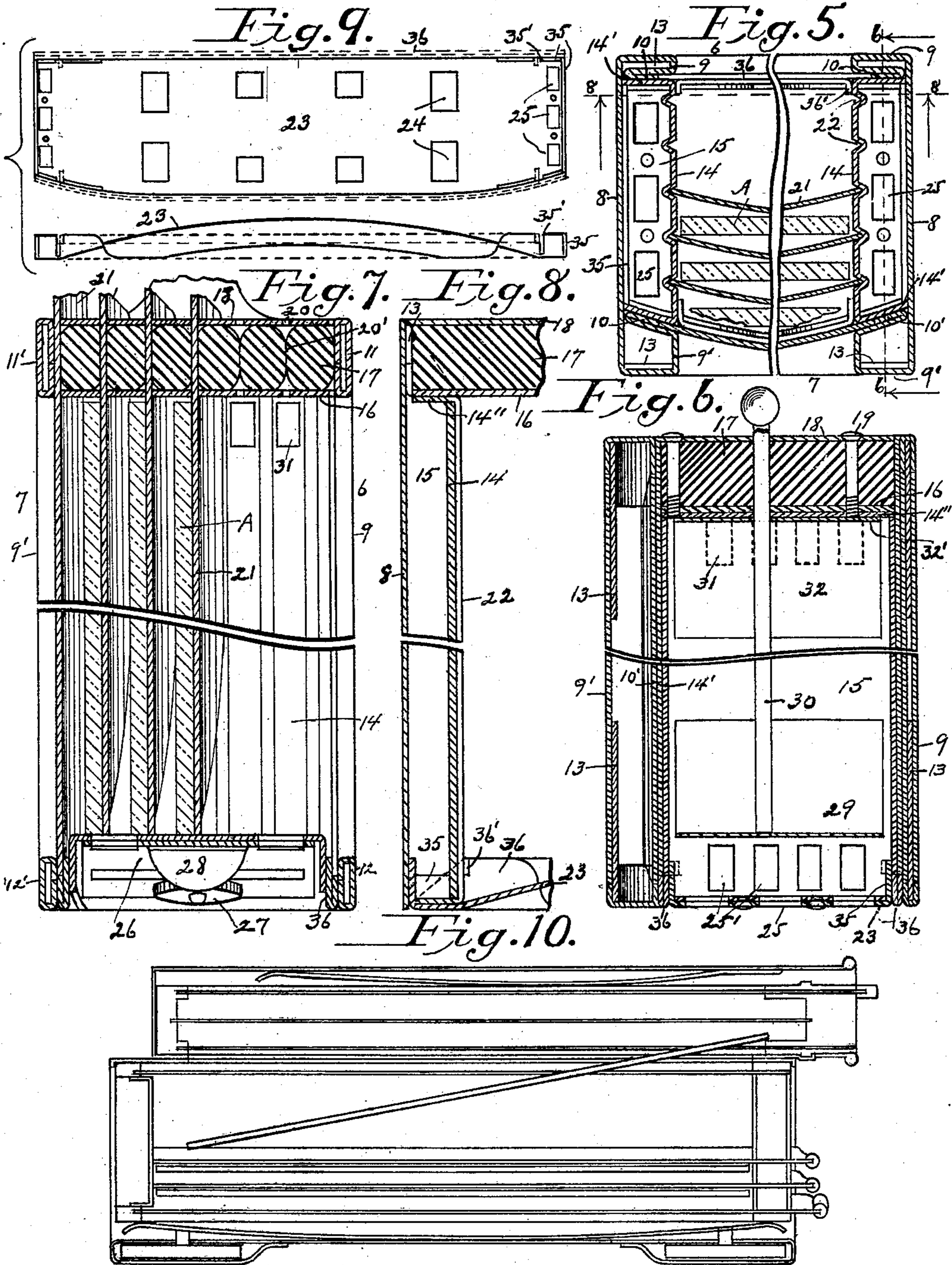
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Witnesses.

Alvin P. Shepard
Alex D. Mabon

Inventor.

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UNITED STATES PATENT OFFICE.

AULEY B. SHEPPARD, OF PITTSBURG, PENNSYLVANIA.

DEVELOPING-PACKAGE FOR PHOTOGRAPHIC PLATES.

No. 901,203.

Specification of Letters Patent.

Patented Oct. 13, 1908.

Application filed December 28, 1907. Serial No. 408,347.

To all whom it may concern:

Be it known that I, AULEY B. SHEPPARD, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Developing-Packages for Photographic Plates, of which the following is a specification.

The primary object of this invention is to provide a package for photographic plates, particularly exposed plates, to which the plates may be transferred from a camera plate holder and in which they may be developed, all in open light and without recourse to a dark room.

A further purpose is to so construct the slides that the developing fluids have free access to all portions of the plates.

Another object is to provide improved means for admitting the developing fluids without exposing the plates to light; also to provide the package with an improved light-excluding head through which the slides operate.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view of the package taken on line 1—1 of Figs. 3 and 4, and Fig. 2 is a vertical cross-sectional view taken on line 2—2 of Fig. 1. Fig. 3 is a top plan view, and Fig. 4 a bottom view. Fig. 5 is a sectional plan view, enlarged and broken, taken on line 5—5 of Fig. 1, the developing tank or tray and the fluid inlet closures being omitted, and Fig. 6 is a similar vertical longitudinal sectional view taken on line 6—6 of the same figure. Fig. 7 is a vertical cross-sectional view, broken and enlarged. Fig. 8 is a vertical sectional view, broken, taken on line 8—8 of Fig. 5. Fig. 9 is a detail view of the bottom-forming member of the package. Fig. 10 is a skeleton view showing the improved package connected to a camera plate holder for transferring a plate.

The package is preferably constructed of sheet metal, the several parts being so cut and fitted together as to make compact, strong and light-excluding joints.

Referring to the drawings, the opposite side faces 6 and 7 of the package are open for the passage of plates facewise. These open faces are of rim-like form and flat to make light-excluding connection with a camera plate holder as in Fig. 10, where I show them connected by the transfer device

forming the subject of application Serial No. 405,183, filed December 5, 1907.

The outer vertical end walls of the package consist each of a plate 8 having one edge bent inwardly at right angles to form loop 9, with edge extremity 10 turned backwardly a portion of the width of loop 9, as shown in Fig. 5. The other vertical edge of plate 8 is similarly formed, only loop 9' thereof is larger than loop 9, and the reversely turned edge extremity 10' is diagonal to plate 8 instead of at right angles, as is extremity 10. The side plates 8 are mitered at the top with the tube-like transverse members 11, 11', and the bottom with similar members 12, 12', members 11 and 12 forming the top and bottom branches of rim-like face 6, and members 11', 12' the corresponding branches of face 7. These tube-like transverse members are rigidly connected with the looped edges of plates 8 by means of the right angle corner members 13 inserted therein and riveted or soldered.

The inner vertical walls 14 of the package are spaced inwardly from plates 8 to form fluid ducts 15 which extend from the bottom to the top of the package. The longitudinal edges of plates 14 are bent backward the width of the ducts and form the edge walls 14' thereof, while the outturned upper ends 14'' of plates 14 form the upper end walls of the ducts.

The upper end or head of the package consists of the inner transverse plate 16 secured to the plate extremities 14'', with a relatively thick soft rubber block 17 clamped between plate 16 and top plate 18, the parts being secured together by screws 19. These plates are slotted at 20 and the rubber is correspondingly slitted at 20' to permit the plate confining slides 21 to enter and be withdrawn, the edges of the slides moving in and held by corrugations 22 in walls 14. The rubber is formed with rounded depressions on its upper and lower faces coincident with slits 20', so that when compressed between plates 16 and 18 the rubber is placed under an appreciable strain or tension which maintains the slits normally closed, although not resisting opening sufficiently to interfere with a practically free movement of the slides therethrough. Slides 21 are curved transversely so that their concave faces stand away from the sensitive sides of plate A and prevent injury thereto,

at the same time giving ample space for circulation of the developing and other fluids. Apertures 21' in the slides facilitate circulation; and for the same reason their lower corners are rounded off. With the slides rounded, an outwardly bulging or convex side of a slide faces outwardly at face 7 of the package, hence the difference between the formation of the various members of the package at that face and face 6.

The bottom of the package consists primarily of the upwardly bowed plate 23, having fluid inlet apertures 24 beneath the main or plate-confining space, and the smaller apertures 25 at the bottoms of side ducts 15. Inlets 24 are opened and closed by the curved slide or damper 26, held by screws 27 and manipulated by finger-hold 28. Openings 25 are controlled by vertically movable U-shaped plates 29, secured to rods 30 extending upwardly through the ducts and through the top or head of the package. Closures 29 raise and lower in the plane of fluid passages 25 in walls 14. A plate 32 having offsets 32' between its ends is secured to the upper portion of each rod 30, opposite fluid ducts 31 and 33 in inner and outer walls 14 and 8, respectively. The upper portion of the plate closes passage 33 when the rod is lowered to close bottom openings 25. When raised, passage 33 is open for the admission of fluid and at the same time the portion of plate 32 below the offset is raised into line with openings 33 and 31, and prevents light from entering without materially retarding the inflow of fluid.

The structural detail of the lower end of the package is as follows: At each end of plate 23 the upturned flange 35 extends around the corners of the plate and is entered within the lower extremity of duct 15. Slots 35' in the flange permit bottom plate 23 to bear upwardly against the lower extremity of wall 14.

The lower ends of the duct edge-walls 14' terminate above bottom 23 and abut against one ply of the folded or U-shaped transverse strip 36, while the lower ends of the back-turned edges 10 (at one side of the package, or 10' at the other side) bear on the other ply, all as clearly shown in Fig. 6. The ply of each of these folded strips next the interior of the package is higher between its ends than the outer ply, as shown in Fig. 7, and the ends 36' of this higher part are turned inward and secured to inner side walls 14, as shown in Fig. 5. The outer and lower ply of each strip 36 forms a bottom edge or abutment for the lower extremity of the outer plate-confining slide. At face 6, strip 36 is straight, while at face 7 the strip is curved, thus conforming to the straight and curved construction at the opposite faces.

When transferring plates to or from the holder either face thereof may be clamped to

the plate-holder as each side presents a flat face for that purpose, a convenient clamping holder for effecting the transfer of plates to and from the package being that shown in Fig. 10 and forming the subject matter of application filed December 5, 1907, Serial No. 405,183.

The several slides hold the plates in such manner that the developing and other fluids have full access thereto, and the open formation of the slides affords thorough circulation. And the fluid opening at the top and bottom of the ducts permit the fluid to enter freely. The slitted soft rubber head permits the slides to freely enter, and at the same time the slits close tightly when the slides are removed and no light can enter.

When developing, the improved holder is simply entered in a tray or can B containing sufficient developer to rise nearly to the top with the holder therein. Rods 30 are then raised, opening the inlets and permitting the fluid to enter, and with the slides formed as described it circulates freely throughout all portions of the plate confining space and is fully accessible to all portions of the plates. After developing and fixing the plates, the package may be removed from the tray and turned bottom end up, the curved bottom forming a funnel-like receptacle into which the washing fluid is poured, flowing into the package through the bottom openings.

I claim:—

1. A plate package having slideways, and transversely curved plate-separating slides.

2. A plate package having slideways also fluid admitting passages, closures for the passages, and transversely curved slides.

3. A plate package having slideways and fluid admitting passages, closures for the passages, and slides formed to place the slide-defined plate spaces in direct communication.

4. A plate package having slideways and fluid admitting passages, closures for the passages, and slides having fluid passages through which fluid may pass from one plate space to another.

5. A plate package having slideways and fluid admitting passages, closures for the passages, and slides having narrowed lower ends to place adjacent plate spaces in communication.

6. A plate package having slideways and fluid admitting passages, closures for the passages, and transversely curved slides narrowed at their lower ends with fluid passages above said ends.

7. A plate package having slideways and fluid admitting passages, closures for the passages the package having a centrally raised plate-supporting bottom which only a portion of the lower edge of each plate engages, and sides having fluid passages.

8. A plate package having slideways and

an upwardly curved bottom which only a portion of the lower edge of each plate engages, the curved bottom having fluid passages, a slide closing the passages, and plate
5 confining slides.

9. A plate package having slideways and plate confining slides, the package having fluid ducts extending along its longitudinal edges provided with fluid admitting openings, the ducts having lateral inlets into the package interior, closures for the fluid openings, and rods extending into the ducts through the package top with the closures secured thereto.

10. A plate package having slideways and plate-confining slides, the package having fluid ducts extending along its longitudinal edges, each duct having a passage through its inner wall into the package interior and a passage through its outer wall, a slide for closing the last named passage, the slide having an offset extension which moves into the plane of the passage into the package interior when the passage through the outer wall of the duct is open.

11. A plate package having slideways and plate-confining slides, the package having fluid ducts at its edges, each duct having opposite fluid passages in its inner and outer walls, a plate having an offset between its ends with the portions of the plate above and below the offset in different planes, one of the end portions forming a closure for the passage through the outer wall and the other end portion forming a shield for the passage through the inner wall, and an operating device to which the plate is secured.

12. A plate package having a fluid duct extending upwardly from its lower extremity with fluid admitting passages in the bottom thereof, the lower portion of the duct having lateral passages into the plate-confining interior of the package, a U-shaped closure adapted at its lower end to open and close said passages, said closure when in closed position being opposite the passages opening into the package interior, and an operating rod extending through the duct with the closure secured thereto.

13. A plate package having longitudinal slideways, a soft rubber head for the package having slits complementary with the slideways, and slides.

14. A plate package having longitudinal slideways, a soft rubber head for the package having curved slits connecting opposite slideways, and transversely curved slides.

15. A plate package having longitudinal slideways, a soft rubber head for the package with plates between which the rubber is clamped, the plates having slide slots and the rubber slitted complementary with the slots, and plate confining slides.

16. A plate package having longitudinal

slideways, a head for the package consisting of separated plates and soft rubber clamped between the plates, the plates being slotted and the rubber slitted for the passage of slides, the upper and lower faces of the rubber having depressions coincident with the slits for the purpose described.

17. A plate package open at its side for the passage of plates, with the open side faced to make light-excluding connection with a camera plate holder, the package having slideways, transversely curved plate-confining slides open for the passage of fluid from one plate space to another, the package having fluid admitting passages with closures for the passages.

18. A plate package having open side faces for the passage of plates, the vertical end walls of the package being bent up from sheet metal into general channel form, the opposite end of each channel being of loop formation to form parts of the open side faces of the package, transverse top and bottom face pieces of loop formation, and right-angle corner members inclosed in the looped-transverse pieces and in the loops of the channel-like members for securing said parts together.

19. A plate package having open side faces for the passage of plates, channel-like end walls for the package bent up from sheet metal and forming the upright side portions of the open faces, channel-like plates fitted within said end members and inclosing fluid ducts which extend from the top to the bottom of the package with openings for the passage of fluid into and out of the ducts, and transverse top and bottom members for the package.

20. A plate package having a slideway provided with an inlet end of flexible material which closes when the slide is removed.

21. A plate package having a slideway provided with soft rubber at its inlet end which closes the slideway when the slide is removed.

22. A plate package having a slideway, and flexible rubber at the inlet end thereof and slotted complementary with the slideway, the slot in the rubber closing when the slide is removed.

23. A plate package open at its side for the passage of a plate facewise therethrough and at said side faced to make light-excluding connection with a camera plate holder, the package having slideways, and means for admitting fluid to the package.

In testimony whereof I affix my signature in presence of two witnesses.

AULEY B. SHEPPARD.

Witnesses:

J. M. NESBIT,
F. E. GAITHER.